

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Surface Mine

Fatal Machinery Accident
November 10, 2003

A&I Contracting, Inc. (D-540)
Salyersville, Kentucky

at

17 Mine
Knott Floyd Land Company, Inc.
Hueysville, Floyd County, Kentucky
ID No. 15-18444

Accident Investigators

Arlie A. Webb
Supervisory Mine Safety and Health Specialist

Carlos Smith
Coal Mine Safety and Health Inspector

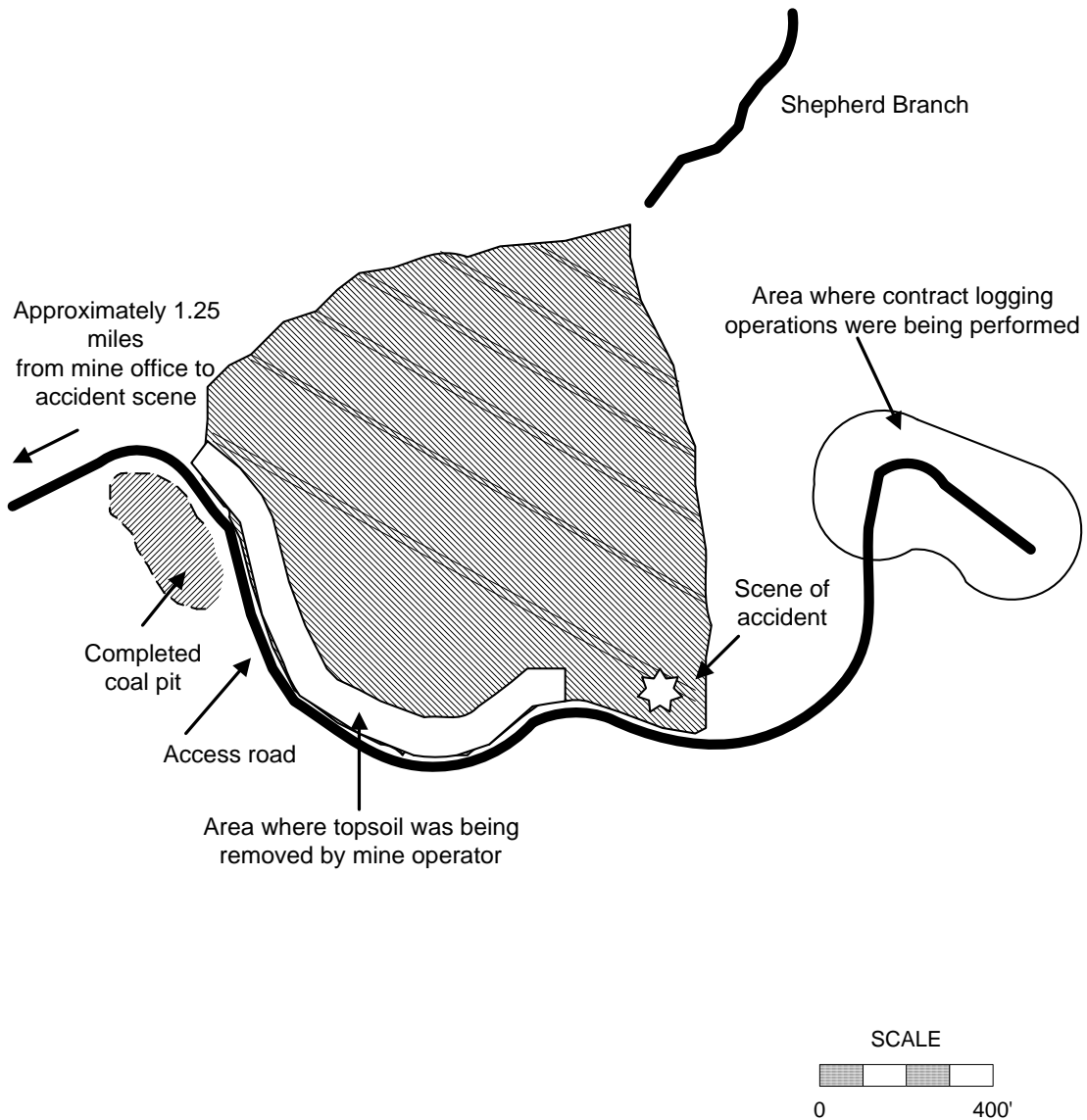
Robert A. Sturgill
Coal Mine Safety and Health Inspector

Originating Office
Mine Safety and Health Administration
District 6
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Kenneth A. Murray, District Manager

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ACCIDENT SITE



Fatal Machinery Accident
A&I Contracting, Inc.(D-540)
Knot Floyd Land Company, Inc.
17 Mine ID No. 15-18444
Hueysville, Floyd County, Kentucky
November 10, 2003

OVERVIEW

At approximately 2:00 p.m. on Monday, November 10, 2003, a 30-year old contract employee with 2 weeks of experience was fatally injured at Knott Floyd Land Company Inc.'s # 17 mine. The accident occurred while the contractors were clearing brush in advance of mining operations. Alex Anthony Michael Soler was using a chain saw to cut a tree when the tree split, striking him in the head. There were no eyewitnesses to the accident. The accident resulted from improper tree-cutting methods.

GENERAL INFORMATION

Knott Floyd Land Company, Inc.'s # 17 surface mine is located just off Route 2029 at Brush Creek, near Hueysville, in Floyd County, Kentucky. Mountain top removal, contour mining and auger mining are all performed at this mine site.

The principal officers for the mine at the time of the accident were:

Jeff JoycePresident
Thurman BarkerVice-President

At the time of the accident, A & I Contracting, Inc. was performing brush clearing activities, approximately 1000 feet in advance of mining operations.

The principal officers for A & I Contracting, Inc. at the time of the accident were:

Larry PatrickPresident
Sarah PatrickVice-President
Victoria Watson.....Secretary

Prior to the accident, the Mine Safety and Health Administration (MSHA) completed the last regular safety and health inspection on June 30, 2003. The Non-Fatal Days Lost (NFDL) injury incidence rate for the mine in 2003 was 9.17 compared to a National NFDL rate of 1.87 for the same time period.

DESCRIPTION OF ACCIDENT

The employees of A & I Contracting were working in a remotely located area of the permitted property, approximately 1700 feet from the nearest mining activity. The work being performed by the contractor was brush clearing in advance of mining operations. Brush clearing activities included felling trees left by the previous logging operation, cutting brush, and piling up the debris for burning. On average, the amount of time between the brush clearing activities and mining activities was approximately one week.

At approximately 7:00 a.m. on the day of the accident, the victim, along with other employees of A & I Contracting arrived on the permitted area of Knott Floyd Land Company's #17 surface mine. According to interviews with the other contractor employees, Mike Watson, the contractor foreman, gave the men a safety talk and assigned them to their work areas and duties.

The men stopped for lunch at about 1:00 p.m. Shortly following their return to work (around 2:00 p.m.) the victim was in the process of felling his first tree after lunch, when Eddie McCarty, bulldozer operator, observed the tree fall and that Soler was beneath it. McCarty and other workers immediately went to assist Soler. The tree was lying on top of the victim and the other workers cut it with Soler's chainsaw, which was still running. Mine Emergency Technicians were summoned from the nearby strip mine. Upon examination, Soler did not exhibit any sign of life.

INVESTIGATION OF THE ACCIDENT

Upon notification of the accident, MSHA investigators Carlos Smith and Robert A. Sturgill were immediately dispatched to the scene. Photographs and measurements were taken, and the area mapped. Other documents and relevant information was gathered by the investigators.

The investigation was conducted in cooperation with the Kentucky Department of Mines and Minerals. Other participants and consultants included the Kentucky Occupational Safety and Health Administration (OSHA). Eight persons were interviewed during the investigation.

DISCUSSION

A & I Contracting is involved in tree cutting and brush removal incidental to mining activities by Knott Floyd Land Company. Tree cutting and brush clearing work were the only activities A & I Contracting was performing. No ground was being broken and no soil was being moved by the contractor pertaining to preparation for mining activities. The contract crew used chainsaws to clear trees and brush prior to using a bulldozer to pile the material up for disposal.

Although Knott Floyd Land Company holds the permit for the area where A & I Contracting employees were working, Knott Floyd Land Company does not exercise any supervisory control over the contract employees. A & I Contracting management conducts examinations of the work area and no examinations are performed by Knott Floyd Land Company.

The tree being felled was Ash, which is a strong, flexible hardwood, with a straight, moderately pronounced grain that splits easily. The tree was approximately 12-inches in diameter at the point where it was being cut, and was leaning slightly downhill.

Although the tree was cut using the Open Face Notch practice, the notch was not of sufficient size to allow safe felling of the tree. A notch is the portion of wood removed from the tree during the initial steps of felling. A properly cut notch will close just before the tree hits the ground, providing a higher degree of safety and less chance of kick back. Kick back is a sudden, violent release of a portion or slab of the tree being cut, due to breakage of the hinge or splitting of the tree. A horizontal cut was made approximately 8-inches into the tree, followed by a top cut to the same depth, creating a notch. The wedge removed from this notch measured approximately 2.25-inches thick at the thickest part. A properly sized notch would have resulted in a wedge measuring approximately 10-inches to 13-inches at its thickest part.

The amount of uncut material left in the tree trunk was not sufficient to form a proper hinge for control of the falling tree. A hinge is the uncut wood left intact in the tree stump during felling. It provides a means for controlling the direction of the fall and holds the tree to the stump during most of the fall. The hinge resulting from the proper cutting technique will remain intact until the tree hits the ground, further reducing the risk of kick back.

The felling or back cut was made into the opposite side of the tree on a slightly downward angle. This cut penetrated beyond the notch cut, and left less than 3-inches of uncut wood supporting the tree.

As the tree fell, the undersized notch closed prematurely, placing stress on the remaining uncut wood. This caused the tree to split vertically for a distance of approximately 13-feet. The split-off slab of the tree apparently struck the victim in the face and then fell on top of him.

Other tree stumps were examined to determine if proper felling practices were being followed. Only one stump showed evidence of proper felling technique. The remainder had little to no face cuts or falling notches, and no hinge wood was being left on the trees during cutting. There was little evidence of any retreat paths being cut for the personnel performing tree cutting work.

The victim had been working for the contractor for two weeks prior to the accident. He had been given hazard training related to the potential hazards incurred while driving across mine property.

ROOT CAUSE ANALYSIS

An analysis was conducted to identify the most basic causes of the accident that were correctable through reasonable management controls. During the analysis, causal factors were identified that, if eliminated, would have either prevented the accident or mitigated its consequences.

Listed below are causal factors identified during the analysis and their corresponding corrective actions implemented to prevent a recurrence of the accident:

1. *Causal Factor:* Proper tree cutting methods were not being utilized, in that the notch cut into the tree was not of sufficient size to prevent splitting of the tree as it fell.

Corrective Action: Adequate training in proper methods for cutting trees.
Adequate management oversight to insure safe methods are followed.

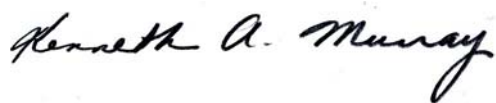
CONCLUSION

The accident occurred because improper tree-cutting methods, which included leaving an undersized notch and improper placement of cuts into the tree trunk, resulted in the tree splitting and striking the victim in the face, causing fatal injuries.

ENFORCEMENT ACTIONS

There were no violations of 30 CFR observed that contributed to this accident.

Approved By:



Kenneth A. Murray,
District Manager

02/02/2005

Date

Appendix A

Persons Participating in the Investigation

Knott Floyd Land Company, Inc.

Thurman Barker	Owner
Jody P. Bowan	Front End Loader Operator
Walter M. Slone	Bulldozer Operator
Larry Stubblefield	Safety Director

A & I Contracting, Inc.

Willie Bailey	Bulldozer Operator
David Howard	Tree Cutter
Clyde McCarty	Bulldozer Operator
Scott Tackett	Tree Cutter
Mike Watson	Foreman

Mine Safety and Health Administration

Carlos Smith	CMS&H Inspector
Robert A. Sturgill	CMS&H Inspector
Arlie A. Webb	Supervisory MS&H Specialist

Appendix B



Photograph of Accident Scene



Close up of Base of Tree

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